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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/562,309	05/24/2007	Catherine Anderson	7896-72616-02	9426
74051 Klarquist Sparkman, LLP 121 SW Salmon Street Suite 1600 Portland, OR 97204	7590 11/12/2010			
EXAMINER				
BUL PHUONG T				
ART UNIT		PAPER NUMBER		
1638				
NOTIFICATION DATE		DELIVERY MODE		
11/12/2010		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/562,309

Applicant(s)

ANDERSON ET AL.

Examiner

Phuong T. Bui

Art Unit

1638

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 September 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) 5 and 7-9 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/06)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____
- 7) ☐ Paper No(s)/Mail Date see Office action.

DETAILED ACTION

1. The Office acknowledges receipt of Applicant's restriction election filed September 17, 2010. Applicant elects Group I, claims 1-4 and 6, without traverse. Claims 1-9 are pending. Claims 5 and 7-9 have been withdrawn from examination as being drawn to nonelected inventions. Claims 1-4 and 6 are examined in the instant application.

Applicant has priority benefit of filing date June 24, 2003.

This restriction is made FINAL.

Information Disclosure Statement

2. Applicant's IDS filed March 29, 2006, October 23, 2007 and December 17, 2007 have been considered. Signed copies are attached.

Drawings

3. No drawings have been filed.

Claim Objections

4. Claim 6 is objected to because of the following: claim 6 depends from a nonelected claim. Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-4 and 6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, it is suggested "fully" be inserted before "complementary". Otherwise, the claim reads on a 2-base sequence, which does not appear to be Applicant's intention.

In claim 1, the metes and bounds of "ortholog" are unclear. Pages 11-12 of the specification give examples of orthologs. However, these are not definitions to allow one skilled in the art to differentiate DRO5 orthologs of SEQ ID NO:2 from other proteins. "DRO5" is Applicant's own designation for the polypeptide. No art recognized term is given for DRO5. No common structure or sequence identity is given for orthologs of DRO5. It does not appear Applicant intends to encompass all drought tolerance polypeptides as orthologs of DRO5. It is suggested "ortholog" be deleted. All subsequent recitations of "ortholog" are also rejected.

To the extent claim 6 is dependent on nonelected claim 5, the following rejection would apply if claim 5 were incorporated into claim 6. "Fully" should be inserted before "complementary" as indicated in claim 1 above. The metes and bounds of "ortholog" are unclear as indicated in claim 1 above. In claim 5(b), "increased" is a relative term lacking a comparative basis.

In claim 6, "a method" should be amended to "the method" for proper antecedence.

Clarification and/or correction is required.

Claim Rejections - 35 USC § 101

7. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

8. Claims 3 and 4 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Due to gene segregation in sexual hybridization, the plant part and seed may not contain transgenic material. Thus, the claims read on products of nature, which are not patentable.

Claim Rejections - 35 USC § 112, first paragraph

9. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

10. Claims 1-4 and 6 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the **written description** requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

"Ortholog" lacks adequate written description. Applicant does not disclose a representative number of species which are orthologs of DRO5 SEQ ID NO:2. As stated in the 35 USC 112, second paragraph rejection above, DRO5 is Applicant's own designation for a polypeptide which exhibits drought tolerance when expressed in a plant. However, not all drought tolerant polypeptides have the same structure or share a common structure, because drought tolerance is a complex phenomenon regulated by multiple genes and different physiological processes. DRO5 SEQ ID NO:2 was obtained from *Arabidopsis thaliana*. However, the claims encompass sequences from

Art Unit: 1638

other species, none of which are disclosed. The claims also encompass mutants and allelic variants and thus imply that structural variants exist in nature, yet no structural variant has been disclosed. The implication is there is a gene and a protein other than that disclosed which exists in nature, but the structure thereof is not known. One skilled in the art would not be able to generate a population of sequences which are orthologs of DRO5 SEQ ID NO:2 based upon Applicant's disclosure. It is unpredictable which sequences are encompassed by DRO5 orthologs. Thus, there are insufficient relevant identifying characteristics to allow one skilled in the art to predictably determine such mutants, allelic variants and sequences from other plants and organisms, absent further guidance. Accordingly, there is lack of adequate description to inform a skilled artisan that Applicant was in possession of the claimed invention at the time of filing. See Written Description guidelines published in Federal Register/ Vol.66, No. 4/ Friday, January 5, 2001/ Notices; p. 1099-1111.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12. Claims 1-4 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Shuai et al. (Plant Physiology, Vol. 129, June 2002, pp. 747-761 (Applicant's IDS)). Shuai teaches a sequence which has 99.9% sequence identity to SEQ ID NO:1 and 100% sequence identity to SEQ ID NO:2 (see sequence alignment Shuai et al, Plant

Art Unit: 1638

Physiol. 129:747-761 (2002), UniProt_201006 Database, Acc. No. 081323; A0MF43; B7XG73; A1PED1; Result 1 (U)). A plant was transformed with said sequence (p. 751, "Alterations in Expression of LOB"). Even though Shuai does not teach drought tolerance, the transgenic plant of Shuai is identical to the claimed plant, and thus by necessity inherently possesses the drought tolerance phenotype. The CMV 35S promoter of Shuai is a constitutive promoter. The plant of Shuai contains plant parts including seed. Accordingly, Shuai anticipates the claimed invention.

13. Claims 1-4 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by McCourt et al. (US20010044938 (A)). Because DRO5 SEQ ID NO:2 orthologs are not defined, these claims are anticipated by any sequence which exhibits drought tolerance when expressed in a plant. McCourt teaches a transgenic plant and seed containing a nucleic acid molecule encoding farnesyl transferase which enhances drought tolerance in a plant (Abstract). McCourt also teaches constitutive promoters ([0074-0075]). Accordingly, McCourt anticipates the claimed invention.

Remarks

14. No claim is allowed.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuong T. Bui whose telephone number is 571-272-0793.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anne Marie Grunberg can be reached on 571-272-0975. The fax phone

Art Unit: 1638

number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Phuong T. Bui/
Primary Examiner, Art Unit 1638